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## **Behavior And Environmental Sanitation In Malaria Patients At Work Area Of the Local Government Clinic Pundata Baji Pangkep Regency**

**Idris, Mulyadi, Nurlita Pertiwi, M. Ahsan S. Mandra, and Gufran Darma Dirawan**

### **Abstract**

This research aims to describe the community behavior and environmental sanitation with the incidence of Malaria in the Local Government Clinic of Pundata Baji Pangkep on 2015, using a "descriptive". The sample in this study are patients with malaria in the Work area of Pundata Baji Pangkep on 2015 as many as 18 people were taken using purposive sampling technique, the instrument is a questionnaire and observation sheet. Processing and presentation of data by using SPSS for windows.

The results showed that the incidence of respondents who never use mosquito nets while sleeping as many as 13 (72.2%), and the use of mosquito nets as much as five respondents (27.8%). Respondents who declared using mosquito repellent as many as 14 respondents, while those not using 4 respondents (22.2%), respondents who expressed ventilation qualify as many as four people (22.2%), while the states do not qualify as many as 14 people (77.8%). Respondents who said drainage qualify as many as five respondents (27.8%), while stating the drainage does not qualify as many as 13 respondents (72.2%). In conclusion awareness of the use of mosquito nets is still lacking and most respondents only use anti-mosquito drugs, while in terms of ventilation and drainage has not received particular attention so impacted by their mosquito vectors of diseases such as malaria.

### **Introduction**

Malaria is a disease caused by the Plasmodium parasite and transmitted by the Anopheles mosquito. The spread of malaria in the world is very widespread and between longitude 60° north and 40° south covering more than 100 countries in tropical and sub-tropical. Population at risk of malaria amounted to about 2.3 billion or 41% of the world population. Every year the number of malaria cases amounted to 300-500 million and resulted in 1.5 to 2.7 million deaths, mainly in Africa. Regions in

the world which is now free of malaria are Europe, North America, most of the Middle East, most of the Caribbean, most of South America, Australia and China (Evawaty, 2010: 2).

Tropical malaria in the tropics especially rapid population growth, migration, poor sanitation and overcrowded areas, to help facilitate the spread of the disease. The opening of new land and the massive urbanization that has allowed the contact between mosquitoes and man who lived in the area. Countries tropics and subtropics, including Indonesia still bothered by malaria. This disease is a disease that has long been recognized, but there is no effective solution until now. From the statistics, the disease has killed one African child every 30 seconds, meaning that 2.280 African children die every day from malaria. In Indonesia, malaria is still the leading cause of death and an estimated 50 people suffer from malaria per 1.000 residents, this number is a number big enough, especially with the development of transportation and mobilisasi the world's population (Ministry of Health, RI 2010: 1). Furthermore, the eastern part of Indonesia in particular, malaria is still a major infectious disease. As a result, the state should provide substantial funds for mengendalikannya. It is not only experienced by developing countries alone, even in developed countries was as well. Problems malaria mortality and morbidity have close links with the onset of resistance to treatment and awareness of early diagnosis and mitigation (Ministry of Health, RI 2010: 2)

Geographical and meteorological factors are very favorable transmission of malaria in Indonesia. The influence of temperature is different for each species. At a temperature of 26.7° C intrinsic period is 10-12 days for plasmodium falsifarum and 8-11 days for plasmodium vivax, Plasmodium malariae only 14-15 days and ovale. Malaria incidence outside the island of Java is shown by the numbers Parasite Rate (PR) has not seen any significant decrease. When seen from the development each year starting in 1997 amounted to 5.52% decline in 2000 to 4.18% and then increased in 1997 to 4.78% (Evawaty, 2010: 32).

The results of epidemiological studies showed high levels of environmental public health or the incidence of a disease in a society is reciprocal relationship between people's behavior itself with the environment. In turn, as an element involved directly in these interrelationships, whatever happens as a result of the interaction processes such as environmental change will overwrite and felt by the public (Soepratman, 2003: 54). Based on the data available in the Directorate of Communicable Disease Animal Sourced Ministry of Health - recorded until the year 2009 around 80% of regency/city in Indonesia is still categorized as endemic malaria and about 45% of the population live in areas at risk of contracting malaria. In the last 2008 - the number of cases reported as many as 1,143,024 people suffer from malaria according to calculations by economists health, the number of cases is likely to be caused economic losses reached Rp. 3.3 trillion, it is assumed that the value of the number of malaria patients - suffered losses because they can not work for a week as well as the cost of treatment (Ministry of Health, RI 2010: 4).

Cases and morbidity of malaria per province, South Sulawesi Province is a sequence to 9 (nine) with the number of patients as many as 45.028 and Manual Malaria Incidence 25.88% of the 33 provinces. While the county level shows Pangkajene

regency and the islands, entry in most cases of malaria after Selayar, Bulukumba and North Luwu regency (South Sulawesi Health Office, 2015). Cases of malaria at Regency of Pangkajene and the Islands for 2008 found 3.235 cases, while in 2009 found clinical cases as many as 6.106 people. Parasite rate (PR) were reported for the past two years also increased from 13.76% (2009) to 15.14% (2010) (Pangkep District Health Profile, 2015). According to data from health Pundata Baji Pangkep number of malaria cases in the year 2010 the number of malaria cases as much as 150 while in the period January-August 2015 as many as 115 cases of malaria cases (Local government clinic Pundata Baji, 2015).

Geographically, the work area of Local Government Clinic Pundata Baji Pangkep. Region is an area of beach, mountains and the landscape is quite spacious with high rainfall. This condition is a good habitat for the development of *Anopheles* mosquitoes that cause malaria are the main factors that motivated the author to conduct research in the area.

### **Research Methods**

This research used a "descriptive" to describe the behavior and environmental sanitation with the incidence of malaria in the work area of Local Government Clinic Pundata Baji Pangkep 2015. (Sugiono, 2004: 130). The population in this study are patients with malaria are in the Local Government Clinic Pundata Baji Pangkep 2015 period the number of malaria cases from January to August as many as 115 cases.

The sample in this research is malaria patients in the area of highest incidence of malaria in the Work area of Pundata Baji Pangkep 2015 as many as 18 people were taken using purposive sampling technique, with based on the criteria: a) inclusion criteria: patients with malaria in local government clinic and patients who are ready to become respondents; b) exclusion criteria: patients with malaria are not in local government clinic and people who are not ready to be a respondent.

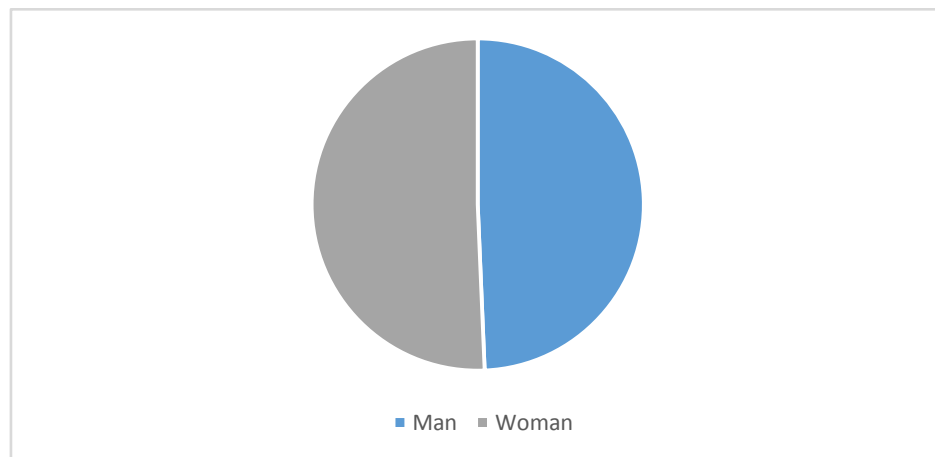
Research instruments using questionnaires and observation sheets. Data in this research consisted of primary data and secondary data. The primary data obtained through interviews and direct observation by using questionnaires and observation sheets made available to the public at the the Local Government Clinic Pundata Baji Pangkep. Secondary data were obtained from the Department of Health, health centers and institutions associated with this research. The data were processed using SPSS and presented in tabular form and accompanied by an explanation.

### **Research Results**

This research was conducted in November in the village of Bori Masunggu which are the areas with the highest levels of malaria within the scope of work area of local government clinic Pundata Baji Pangkep as many as 18 people. Respondents were interviewed is the heads of households or families in the study area.

### *Characteristics of Respondents*

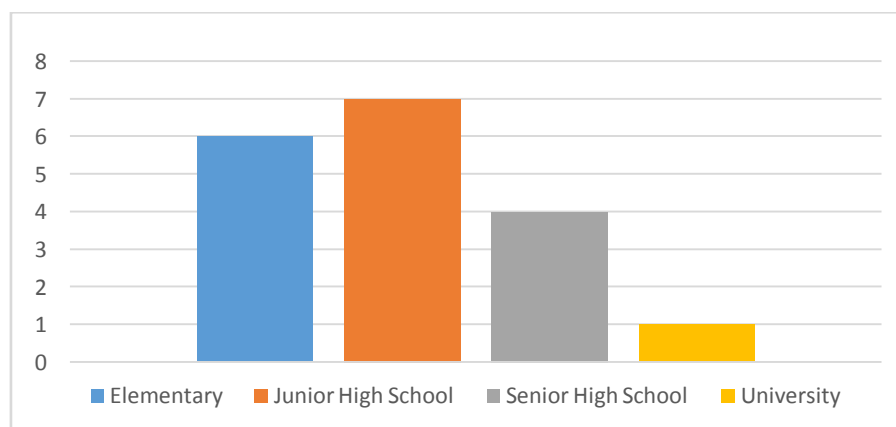
#### **Gender distribution of respondents**



**Figure 1.** Distribution of Respondents by Gender in Work Area of local government clinic Pundata Baji Pangkep 2015

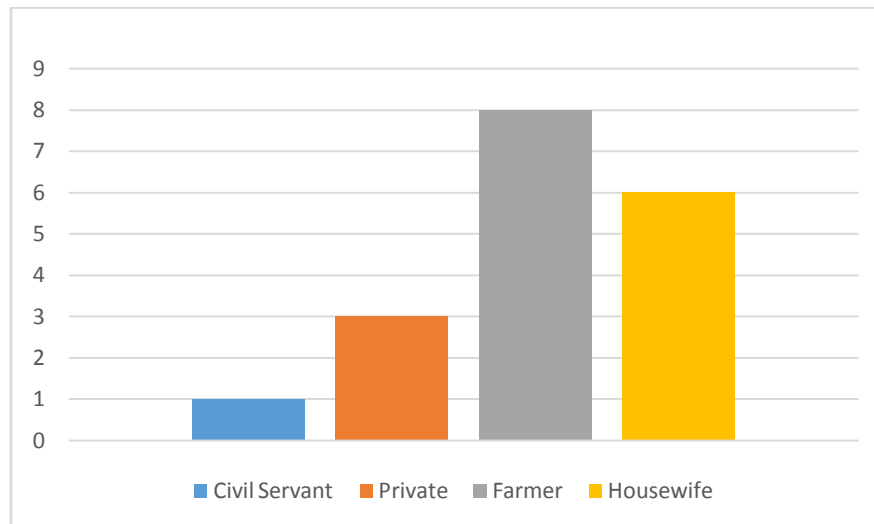
Figure 1 shows that the percentage based on the gender of the most respondents were men of 11 people (61%) and the percentage of the women as many as 7 people (38.9%).

#### **Education distribution of respondents**



**Figure 2.** Distribution of respondents by education in work area of local government clinic Pundata Baji Pangkep 2015

Figure 2 shows that the percentage based education is the most junior high school of 7 people (38.9%) and the percentage of education is low as much university 1 people (5.6%).

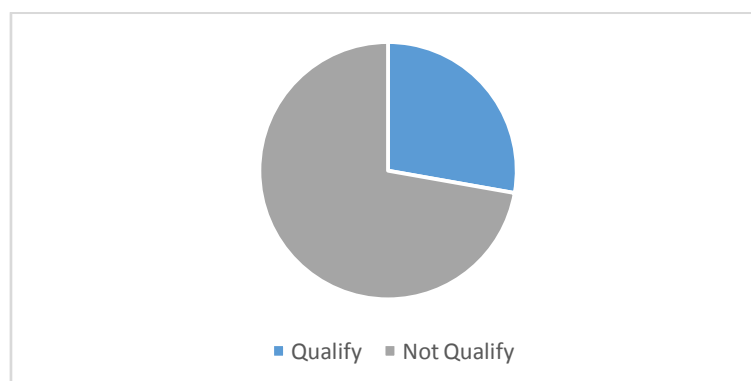
**Job distribution of respondents**

**Figure 3.** Distribution of Respondents by Jobin work area of local government clinic Pundata Baji Pangkep 2015

Figure 3. shows that the highest percentage of jobs are farmers of 8 people (44.3%) and the fewest jobs are civil servants as much as 1 (4.3%).

***Characteristics of variables examined*****Distribution based on the incidence of malaria**

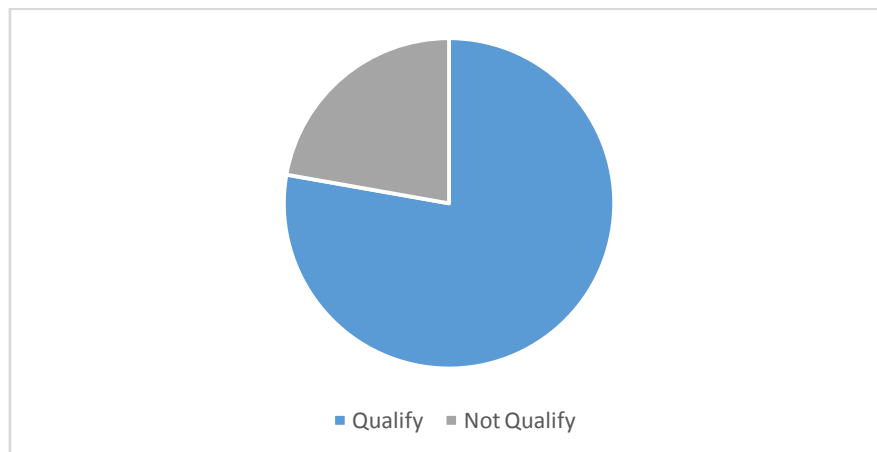
Showed that patients with malaria in work area of local government clinic Pundata Baji Pangkep in 2015 as many as 18 people.

**Distribution based on the use of mosquito nets**

**Figure 4.** Distribution of respondents by use of mosquito netsin work area of local government clinic Pundata Baji Pangkep 2015

Figure 4. shows that respondents who have never used a mosquito net while sleeping as many as 13 (72.2%), and the use of mosquito nets as much as five respondents (27.8%).

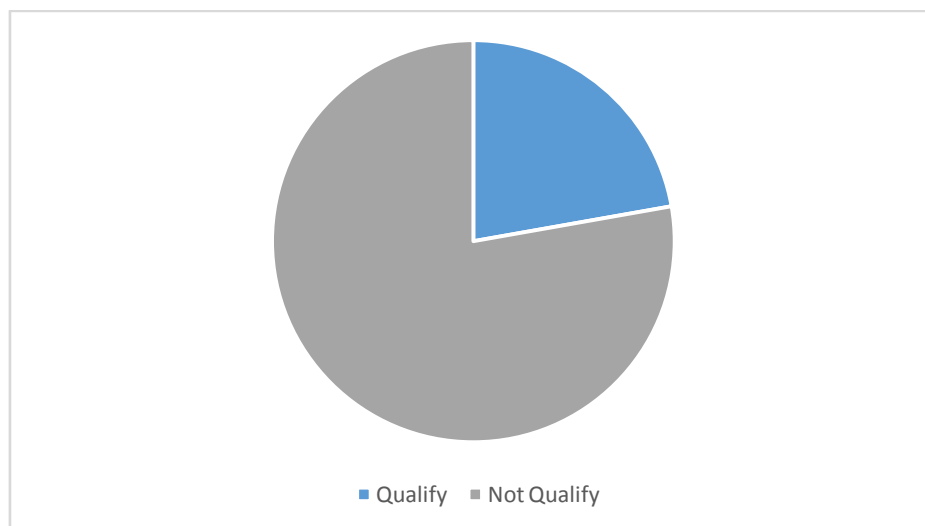
#### The use of anti-mosquito



**Figure 5.** Distribution of respondents by Use of Anti Mosquito in work area of local government clinic Pundata Baji Pangkep 2015

Figure 5 shows that respondents who claimed to use anti-mosquito as many as 14 respondents (77,8%), while those not using 4 respondents (22.2%).

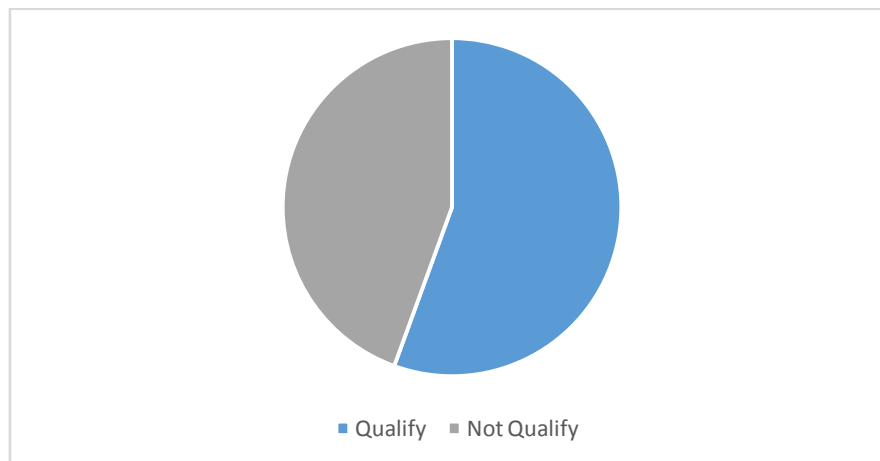
#### Drainage



**Figure 6.** Distribution of respondents by good drainage in work area of local government clinic Pundata Baji Pangkep 2015

Figure 6 shows that respondents who stated drainage qualify as many as five respondents (27.8%), while stating the drainage does not qualify as many as 13 respondents (72.2%).

### Ventilation



**Figure 7.** Distribution of respondents by good ventilation in work area of local government clinic Pundata Baji Pangkep 2015

Figure 7 shows that respondents who stated ventilation qualify as many as four people (22.2%), while the states do not qualify as many as 14 people (77.8%)

### Discussion

#### *Using Mosquito Net*

Using mosquito nets is still the best alternative is the choice of people to avoid contact with mosquitoes while sleeping at night. Results showed that respondents who have never used a mosquito net while sleeping as many as 13 (72.2%), and the use of mosquito nets as much as five respondents (27.8%). In this research is still found that people suffering from malaria, although you are using bed nets, it is because the use of mosquito nets is not good or does not qualify, so mosquitoes can still enter to nibble on while sleeping.

Based on observations and information from the local government clinic that some people have obtained distribution of mosquito nets, especially in the Bori Masungu the highest incidence of malaria by 18 patients, but in reality only a small portion of the people who use the distribution of mosquito nets, while based on information from the community is that there are some communities distribution of mosquito nets were obtained from local government clinic.

The reasons of respondents who did not use mosquito nets while sleeping is in large part because they feel less comfortable, shortness of breath, and feel the heat if using mosquito nets. To accustom something to become a habit that is inherent in the



people, it takes a relatively long time. But it is not workable, but need to be socialized intensively by the relevant parties, in particular it is the duty of the health extension workers in order to avoid the incidence of malaria in the community.

This research are consistent with research conducted (Masjaya, 2008: 40), of the 31 respondents who suffer from malaria shows there are 25 who do not wear a mosquito net and 6 are nets, thus seen that the use of mosquito nets in the study area has not socializing well. The reason given is the inability to buy a mosquito net, this was due to people's incomes are low because food was deemed more important than having to buy a mosquito net.

The use of mosquito nets is one way of prevention is better than not wearing at all, because the netting does not use chemicals so it does not cause resistance of mosquitoes and also not detrimental to health. The use of mosquito nets is also very efficient for enough to buy one only can be used in the long term. The use of mosquito nets is one way to avoid contact with mosquitoes when sleeping at night which is one of the people's choice.

### ***Use of Anti Mosquito***

The results showed that the respondents who stated using mosquito repellent as many as 14 respondents, while those not using 4 respondents (22.2%). This happens because people use mosquito repellent only at night only and the condition of drainage and ventilation does not meet health requirements.

The results of this study showed that most people already use mosquito repellent, it can happen because public confidence in the products anti-mosquito that has been circulating in the community, so it becomes another option society than bed nets, especially considering the function of anti-mosquito is not only used when sleep at night, but also during the day, and at night times when relaxing as watching TV, etc.

The use of anti-mosquito, is one way of prevention against the anopheles mosquito bites. A wide variety of anti-mosquito spread in the community that have a low content of the active ingredient. It could be anti-mosquito repellent mosquito, anti-mosquito spray orelectric. According to the research Masniar (2007: 42) shows that the majority of respondents to using anti mosquito as many as 20 respondents, while those not using anti mosquito as many as 15 respondents.

Many anti-mosquito circulate freely with different types and manifestations in society is not always safe to use, because sometimes it contains active ingredients that are not allowed so as to influence either directly or indirectly to health. For that we need the knowledge for the public to be careful in choosing the anti-mosquito, other than that required enforcement of the relevant agencies should be maximized in order to provide security for the people in order to reduce and overcoming malaria.

### ***Drainage***

This study indicates that respondents who stated drainage qualify as many as five respondents (27.8%) is the condition around the house there are no pools of dirty water, while stating the drainage does not qualify as many as 13 respondents (72.2%) for around the house there is a dirty puddle causing germs, especially mosquitoes. Stagnant water in rural indirectly formed due to human activities alone.

Cycle presence of water in a location where the man lived, at some period will experience a state of excess, so that it can interfere with human life.

In the research area was found swamps are breeding places, so that it becomes one of the triggers, the number of mosquitoes that can cause malaria. Moreover, if supported by the drainage conditions settlements did not meet the health requirements, such as puddles around the house, after the rain, sewer is not smooth, as well as animal manure population.

There are still some people who do not pay attention to drainage caused because of busy at work, where the research area is mostly people work as farmers, who spent more time dilahan agriculture, so it's not really care about the state of the neighborhood.

These findings are consistent with research conducted Masjaya (2008: 41), of the 31 respondents who suffer from malaria shows there are 24 who are having drainage are not eligible, that there are still puddles of water mixed with garbage as a source of vectors of malaria and 15 respondents who rated drained qualified that there are no puddles and some have drainage with water constantly flowing conditions.

Malaria mosquito breeding places assortment, depending on the species of mosquitoes. No infected mosquitoes that live in swamps, canals, ponds, or live in the mountains clean water. To prevent mosquito breeding malaria, one of which is by way of cleaning up the environment and drain stagnant water so it does not become a breeding place.

### ***Ventilation***

The results showed that the respondents who stated ventilation qualify as many as four people (22.2%) for ventilation conditions using wire netting to minimize the entry of mosquitoes, especially malaria mosquitoes, while the states ineligible as many as 14 people (77.8%) due to conditions menngunakan ventilation wire netting.

From this research it was found in 4 respondents with ventilation conditions are good but suffer from malaria that can occur due though with good ventilation, not a guarantee mosquito's can not escape into the house, nor vice versa there were respondents who did not suffer from malaria even though the conditions ventilasinya do not qualify, it could have been caused because they use mosquito nets when sleeping, or mosquito repellent when relaxed, so avoid mosquito bites that could cause malaria.

If seen the number of respondents who do not have a qualified ventilation, can be understood because of the results of interviews that have been done show that the majority of respondents did not know or know about the benefits of the installation of wire netting.

According to the research Masniar (2007: 43) indicates that ventilation conditions to qualify as many as 12 while the ventilation conditions that do not qualify as many as 28 were due to have vents but without the protection wire netting so that mosquitoes can enter through the ventilation holes.

Ventilation function as a exchange of air and vent, in addition to providing a good atmosphere and healthy for its occupants because it can accelerate the process of air exchange and also help remove gases or chemicals present in the room, but the

ventilation also can be a health problem where mosquitoes malaria can go into the house. The use of wire netting at each vent is an effort to prevent the entry of mosquitoes into the house.

### Conclusion

Based on the results of research conducted in work area of local government clinic Pundata Baji Pangkep than in November 2015, it can be concluded that the results showed that respondents who have never used a mosquito net while sleeping as many as 13 (72.2%), and the use of mosquito nets as much as 5 respondents (27.8%). Then the respondents who stated using anti mosquito as many as 14 respondents, while those not using 4 respondents (22.2%). Furthermore, respondents who stated ventilation qualify as many as four people (22.2%), while the states do not qualify as many as 14 people (77.8%). Next respondents who stated drainage qualify as many as five respondents (27.8%), while stating the drainage does not qualify as many as 13 respondents (72.2%).

### Acknowledgment

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